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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,033	09/27/2005	Takanori Saito	33082M277	4029
441 7590 10/02/2007 SMITH, GAMBRELL & RUSSELL 1850 M STREET, N.W., SUITE 800 WASHINGTON, DC 20036			EXAMINER WILSON, GREGORY A	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 10/02/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/551,033

Applicant(s)

SAITO ET AL.

Examiner

Gregory A. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 5, 7 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Gat (6,727,474). Gat discloses a thermal processing unit (10) for conducting a thermal process to a plurality of objects (14) in a tier like manner (Figure 1) in a processing container (12) made of metal (column 5, line 38-40) and includes a heating unit (36), a cooling gas introducing unit (18, 19) having a plurality of blowing holes formed in the pipe wall for blowing out the gas in a tangential direction and is inserted into the container in a vertical direction (height) with the blowing holes formed at suitable

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intervals in the vertical direction of the pipe, a circular space (within element 33) formed between the container and the plurality of objects to be processed and furthermore includes a processing container (16) which a coolant flows.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8, 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gat (6,727,474)** and alternatively over **Gat in view of Kato (6,403,927)**. Gat discloses the applicants primary inventive concept as stated above, but with regard to claim 6, Gat does not particularly teach a plurality of cooling-gas introducing pipes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the amount of cooling-gas introducing pipes since increasing the amount of essential working parts does not appear to solve any stated problem in a new or unexpected way or is for any particular purpose which would be unobvious to one having ordinary skill in the art. With regard to claims 9 and 11, Gat does not particularly disclose the volume of the structure nor the rate at which gas is introduced to achieve the cooling as specified in claim 11, however it would have been obvious to one having ordinary skill in the art at the time the invention was made

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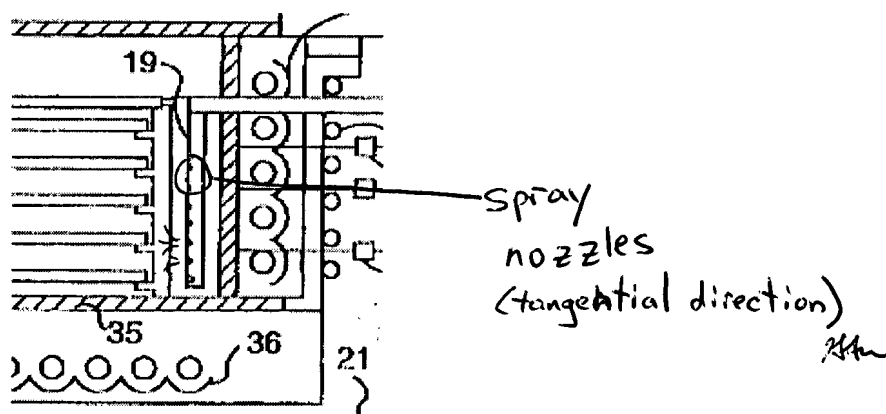
to modify the flow rate of the gas flow as well as the volume of the container to meet the desired need, since it has been held that where the general conditions of a claim are disclosed in prior art, discovering the optimum or workable range involves only routine skill in the art. With regard to claims 8, Gat discloses the applicants primary inventive concept, but does not describe the blowing holes as having a porous member. The applicant discloses in the specification (See page 11, line 9-17) that the function of the porous member is to reduce the flow rate of the cooling gas blown out from the holes. While Gat does not particularly teach this feature, Kato teaches the use of valves (16) connected to individual air flow channels for the purpose of controlling the flow rate of cooling gas. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the valves of Kato into the invention of Gat (specifically the cooling gas introducing unit 18, 19) for the purpose of controlling the flow therethrough since the valves of Kato serves as a functional equivalent to the applicants "porous member".

Response to Arguments

Applicant's arguments filed 8/17/07 have been fully considered but they are not persuasive. The applicant's primary argument is that his invention teaches that each blowing hole is formed at a pipe wall of the cooling-gas introducing pipe in such a manner that each blowing hole blows out the cooling gas in a tangential direction of the circular space, therefore local cooling of the wafers and scattering of particles can be prevented. In addition, a slewing flow of the cooling gas may be generated in the processing container so that the wafers can be cooled more effectively, uniformly within

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a surface and uniformly between surfaces. Additionally, the applicant argues that while Gat discloses a plurality of blowing holes, none of the blowing holes in Gat blows out the gas in a tangential direction. Thus, Gat does not disclose that each blowing hole is formed at a pipe wall of the cooling-gas introducing pipe in such a manner that each blowing hole blows out the cooling gas in a tangential direction of the circular space. The examiner respectfully disagrees and has included a figure to further clarify the interpretation of the claims.



Gat discloses spray nozzles (unnumbered) in pipe (19) which is supported in the specification as distributing the gases evenly across the surfaces of the wafers, a person having ordinary skill in the art can reasonably conclude that the drawings teach that the gas flow out of the blowing holes are tangential in their direction of the circular space and anticipate the applicants invention.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GREGORY WILSON
PRIMARY EXAMINER

A handwritten signature in black ink that reads "Gregory A. Wilson". The signature is written in a cursive style with a large, stylized "G" and "W".

Gaw

September 26, 2007